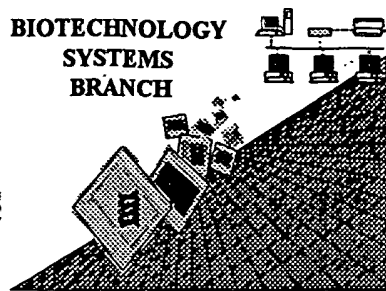


BIOTECHNOLOGY  
SYSTEMS  
BRANCH



**RAW SEQUENCE LISTING**  
**ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/009,919  
Source: Per 1/9  
Date Processed by STIC: 1/14/2002

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER  
VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND  
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<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom, including:

1. EFS-Bio (<<http://www.uspto.gov/ebs/efs/downloads/documents.htm>> , EFS Submission

User Manual - ePAVE)

2. U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202

3. Hand Carry directly to:

U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name,  
Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202

Or

U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two,  
2011 South Clark Place, Arlington, VA 22202

4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office,  
Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

ERROR DETECTEDSUGGESTED CORRECTION

SERIAL NUMBER: 10/009,919

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1      Wrapped Nucleics  
    Wrapped Aminos      The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2      Invalid Line Length      The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3      Misaligned Amino  
    Numbering      The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4      Non-ASCII      The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5      Variable Length      Sequence(s)      contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6      PatentIn 2.0  
    "bug"      A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s)     . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7      Skipped Sequences  
    (OLD RULES)      Sequence(s)      missing. If intentional, please insert the following lines for each skipped sequence:  
    (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading).  
    (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    This sequence is intentionally skipped  
  
    Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8      Skipped Sequences  
    (NEW RULES)      Sequence(s)      missing. If intentional, please insert the following lines for each skipped sequence.  
    <210> sequence id number  
    <400> sequence id number  
    000
- 9      Use of n's or Xaa's  
    (NEW RULES)      Use of n's and/or Xaa's have been detected in the Sequence Listing.  
    Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
    In <220> to <223> section, please explain location of n or Xaa; and which residue n or Xaa represents.
- 10      Invalid <213>  
    Response      Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11      Use of <220>      Sequence(s)      missing the <220> "Feature" and associated numeric identifiers and responses.  
    Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
    (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12      PatentIn 2.0  
    "bug"      Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13      Misuse of n      n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

PCT10

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/10/009,919

DATE: 01/14/2002  
 TIME: 07:46:21

p.3

Input Set : A:\ES.txt  
 Output Set: N:\CRF3\01142002\J009919.raw

**Does Not Comply  
 Corrected Diskette Needed**

5 <110> APPLICANT: Agriculture Victoria Services Pty Ltd AND Australian Pork Limited AND  
 6 Pfizer  
 7 Products Inc.  
 9 <120> TITLE OF INVENTION: Lawsonia derived gene and related hemolysin polypeptides,  
 peptides and  
 10 proteins  
 11 and their uses.  
 W-> 13 <130> FILE REFERENCE:  
 C-> 15 <140> CURRENT APPLICATION NUMBER: US/10/009,919  
 C-> 17 <141> CURRENT FILING DATE: 2001-11-13  
 19 <150> PRIOR APPLICATION NUMBER: US 60/134,022  
 21 <151> PRIOR FILING DATE: 1999-05-12  
 23 <160> NUMBER OF SEQ ID NOS: 4  
 25 <170> SOFTWARE: PatentIn Ver. 2.0  
 28 <210> SEQ ID NO: 1  
 29 <211> LENGTH: 251  
 30 <212> TYPE: PRT  
 31 <213> ORGANISM: Lawsonia intracellularis  
 34 <400> SEQUENCE: 1  
 35 Met Ala Lys His Lys Val Arg Ala Asp Glu Leu Val Phe Leu Gln Gly  
 37 1 5 10 15  
 40 Leu Ala Glu Ser Arg Glu Gln Ala Lys Arg Leu Ile Met Ala Gly Lys  
 42 20 25 30  
 45 Val Thr Leu Thr Asn Asn Ser Thr Thr Ile Pro Leu Arg Leu Glu Lys  
 47 35 40 45  
 50 Pro Gly His Lys Tyr Pro Leu Glu Ser Ile Cys Ser Leu Ile Gly Val  
 52 50 55 60  
 55 Glu Arg Phe Val Ser Arg Gly Ala Tyr Lys Leu Leu Thr Ala Leu Asp  
 57 65 70 75 80  
 60 Phe Phe Lys Ile Asp Val Lys Ser Cys Ile Cys Leu Asp Ala Gly Ala  
 62 85 90 95  
 65 Ser Thr Gly Gly Phe Thr Asp Cys Leu Leu Gln His Gly Ala Ser Lys  
 67 100 105 110  
 70 Val Tyr Ala Ile Asp Val Gly Lys Gly Gln Leu His Glu Lys Leu Tyr  
 72 115 120 125  
 76 Thr Asn Glu Gln Val Ile Asn Ile Glu Gly Val Asn Leu Arg Thr Ala  
 78 130 135 140  
 81 Ser Lys Asp Leu Ile Pro Glu Glu Val Asp Ile Leu Thr Ile Asp Val  
 83 145 150 155 160  
 86 Ser Phe Ile Ser Leu Thr Leu Ile Leu Pro Ser Cys Ile Arg Trp Leu  
 88 165 170 175  
 91 Lys Ala Ser Gly Ile Ile Ile Ala Leu Ile Lys Pro Gln Phe Glu Leu  
 93 180 185 190  
 96 Tyr Pro Asp Lys Ile Lys Lys Gly Val Val Lys Glu Thr Ser Leu Gln  
 98 195 200 205  
 101 Tyr Glu Ala Val Glu Lys Ile Ile His Phe Cys Gln Ser Glu Leu Gly  
 103 210 215 220  
 106 Leu Ile Phe Ile Gly Val Val Pro Ser Val Ile Lys Gly Pro Lys Gly

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/009,919

DATE: 01/14/2002

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Output Set: N:\CRF3\01142002\J009919.raw

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108 225          230          235          240
111 Asn Gln Glu Tyr Leu Ile Tyr Leu Lys Lys Arg
113          245          250
117 <210> SEQ ID NO: 2
118 <211> LENGTH: 756
119 <212> TYPE: DNA
120 <213> ORGANISM: Lawsonia intracellularis
122 <220> FEATURE:
123 <221> NAME/KEY: CDS
124 <222> LOCATION: (1)..(753)
127 <400> SEQUENCE: 2
128 atg gcc aaa cat aaa gta cgt gct gat gaa ctt gtt ttt tta caa ggg 48
130 Met Ala Lys His Lys Val Arg Ala Asp Glu Leu Val Phe Leu Gln Gly
132 1 5 10 15
135 tta gca gaa agt cgt gaa caa gct aaa cga ctt att atg gca ggt aag 96
137 Leu Ala Glu Ser Arg Glu Gln Ala Lys Arg Leu Ile Met Ala Gly Lys
139 20 25 30
143 gtt aca tta act aat aat tct aca act ata cca tta cgt ttg gaa aaa 144
145 Val Thr Leu Thr Asn Asn Ser Thr Thr Ile Pro Leu Arg Leu Glu Lys
147 35 40 45
150 cca gga cat aaa tat cca tta gaa agt atc tgc agt tta ata ggg gta 192
152 Pro Gly His Lys Tyr Pro Leu Glu Ser Ile Cys Ser Leu Ile Gly Val
154 50 55 60
157 gaa cgt ttt gtg agt aga gga gca tat aag cta tta act gct cta gat 240
159 Glu Arg Phe Val Ser Arg Gly Ala Tyr Lys Leu Leu Thr Ala Leu Asp
161 65 70 75 80
164 ttt ttt aaa att gat gta aaa agt tgt att tgt ctt gat gca ggc gca 288
166 Phe Phe Lys Ile Asp Val Lys Ser Cys Ile Cys Leu Asp Ala Gly Ala
168 85 90 95
171 tct act ggt ggg ttt aca gat tgt ctt tta caa cat gga gca tct aaa 336
173 Ser Thr Gly Gly Phe Thr Asp Cys Leu Gln His Gly Ala Ser Lys
175 100 105 110
178 gta tat gcg att gat gta ggc aaa ggt caa tta cat gag aaa ctg tat 384
180 Val Tyr Ala Ile Asp Val Gly Lys Gly Gln Leu His Glu Lys Leu Tyr
182 115 120 125
185 act aat gaa caa gtt ata aat att gag gga gtg aat tta cgt aca gca 432
187 Thr Asn Glu Gln Val Ile Asn Ile Glu Gly Val Asn Leu Arg Thr Ala
189 130 135 140
192 tct aaa gat ctt att cct gaa gaa gta gat att tta act att gat gtt 480
194 Ser Lys Asp Leu Ile Pro Glu Glu Val Asp Ile Leu Thr Ile Asp Val
196 145 150 155 160
199 tct ttt ata tcg ctt act ttg att tta ccg tca tgt ata cgt tgg cta 528
201 Ser Phe Ile Ser Leu Thr Leu Ile Leu Pro Ser Cys Ile Arg Trp Leu
203 165 170 175
206 aag gct tcc gga att att att gcc tta ata aag cct caa ttt gaa tta 576
208 Lys Ala Ser Gly Ile Ile Ile Ala Leu Ile Lys Pro Gln Phe Glu Leu
210 180 185 190
213 tat cca gat aaa ata aaa aaa ggt gta gta aaa gaa act agc ttg caa 624
215 Tyr Pro Asp Lys Ile Lys Lys Gly Val Val Lys Glu Thr Ser Leu Gln

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/009,919

DATE: 01/14/2002

TIME: 07:46:21

Input Set : A:\ES.txt

Output Set: N:\CRF3\01142002\J009919.raw

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217          195          200          205
220 tat gaa gca gta gaa aaa att att cat ttt tgt caa tca gaa ctt gga 672
222 Tyr Glu Ala Val Glu Lys Ile Ile His Phe Cys Gln Ser Glu Leu Gly
224      210          215          220
227 ctt ata ttt att ggt gtt gtt ccg tcg gta ata aaa ggt cca aaa gga 720
229 Leu Ile Phe Ile Gly Val Val Pro Ser Val Ile Lys Gly Pro Lys Gly
231 225          230          235          240
235 aat caa gaa tat ctt att tac ttg aaa aaa cgt taa 756
237 Asn Gln Glu Tyr Leu Ile Tyr Leu Lys Lys Arg
239          245          250
243 <210> SEQ ID NO: 3
245 <211> LENGTH: 15
247 <212> TYPE: DNA
249 <213> ORGANISM: synthetic oligonucleotide
252 <400> SEQUENCE: 3
254 aaataataag atgag 15
258 <210> SEQ ID NO: 4
260 <211> LENGTH: 22
262 <212> TYPE: DNA
264 <213> ORGANISM: synthetic oligonucleotide
267 <400> SEQUENCE: 4
269 atagaataca aattataata ag 22

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*see item 10 on Eva Summary sheet*

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/009,919

DATE: 01/14/2002

TIME: 07:46:22

Input Set : A:\ES.txt

Output Set: N:\CRF3\01142002\J009919.raw

L:13 M:201 W: Mandatory field data missing, FILE REFERENCE

L:15 M:270 C: Current Application Number differs, Replaced Application Number

L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date